

In the claims:

1. (currently amended) A method for frequency conversion of a non-polarized optical light beam, comprising:

splitting a non-polarized optical light beam into two orthogonally polarized beams;
forming said polarized beams and rotating their polarizations of one of said polarized beams; and

pumping an optical frequency converter with said polarized beams, wherein said optical frequency converter comprises a non-linear crystal placed within a common cavity, and the common cavity is pumped by said polarized beams.

2. (original) A method for frequency conversion of a non-polarized optical light beam, comprising jointly pumping one, type II phase matched frequency conversion process with two orthogonally polarized beams.

3. (previously amended) The method according to claim 1, further comprising placing an optical isolator in the beam path such as to prevent reflection-returned light from entering into the pump laser.

4. (previously amended) The method according to claim 1, wherein both beams are focused together into one spot within the frequency converter so as to generate one converted beam.

5. (cancelled)

6. (previously amended) The method according to claim 1, further comprising combining the two generated polarized beams into one beam by means of a polarization beam combiner.

7. (currently amended) Apparatus for frequency conversion of a non-polarized optical light beam, comprising:

a beam splitter adapted to split a non-polarized optical light beam into two, orthogonally polarized beams;

beam forming optics adapted to form said polarized beams and rotate their polarizations of one of said polarized beams; and

an optical frequency converter pumped with said polarized beams, wherein said optical frequency converter comprises a non-linear crystal placed within a common cavity, and the common cavity is pumped by said polarized beams.

8. (original) Apparatus according to claim 7, wherein said beam splitter comprises a beam displacer polarizer.

9. (original) Apparatus according to claim 7, wherein said beam forming optics comprises a half-lambda retarding wave plate, placed into one beam path such as to rotate its polarization by 90°.

10. (previously presented) The method according to claim 2, further comprising placing an optical isolator in the beam path such as to prevent reflection-returned light from entering into the pump laser.

11. (previously presented) The method according to claim 2, wherein both beams are focused together into one spot within the frequency converter so as to generate one converted beam.

12. (currently amended) The method according to claim 2, wherein the frequency converter comprises a non-linear crystal placed within a common cavity, and the common cavity is pumped by said polarized beams.

13. (previously presented) The method according to claim 2, further comprising combining the two generated polarized beams into one beam by means of a polarization beam combiner.